
VILLAGE OF BARRINGTON 2001 WATER QUALITY REPORT

Who should read this report?

Do you drink water? If your answer is “yes,” read on.

The United States Environmental Protection Agency (USEPA) requires all Communities to provide to their consumers a Consumer Confidence Report on the quality of their systems drinking water. This report summarizes the quality of water that we provided during the last year. Included are details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. Also included in this year's report is a Source Water Assessment Summary. Community water supplies are required to report a summary of their source water susceptibility determination, which were compiled by the IEPA.

This report is intended to provide you with important information about your drinking water and the efforts made by the BARRINGTON water system to provide safe drinking water. The source of drinking water used by BARRINGTON is Ground.

Este informe contiene informac[i]o[n] muy importante sobre el agua que usted bebe. Tradu'zcalo o' hable con alguien que lo entienda bien.

If you have any questions about this report or concerning your water system please contact: David W. Schmidt, Superintendent of Utility Operations **847/304-3358** or John Heinz, Director of Public Works **847/381-7903**.

Regulations

In order to ensure that tap water is safe to drink, USEPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

In addition to the informational section of the Water

Sources of drinking water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it can dissolve naturally occurring minerals and radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Possible contaminants:



Inorganic contaminants,

such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining or farming;



Organisms, pesticides, and herbicides,

which may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses;



Organic chemical contaminant,

including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems.



Radioactive contaminants,

which may be naturally occurring or be the result of oil and gas production and mining activities;



Microbial contaminants,

such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

Barrington's H₂O History

The Village of Barrington's municipal water supply system began in 1898 with the drilling of well No. 1, southwest of the intersection of Hough and Station Streets. As the Village grew, additional wells were drilled to satisfy the increase in water demand. Well No. 2, drilled in 1929 is located in the Station Street Pumping Station. Both of these wells are cased through the glacial drift and have open boreholes in the upper part of the Silurian Dolomite bedrock. Wells No. 3 and No. 4, drilled in 1964 and 1973 respectively, are located along Bryant Avenue north of Northwest Highway. Both of these wells secure groundwater from sand and gravel in the glacial drift above the bedrock and are screened gravel-packed wells.

Safe Drinking Water Hotline



Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

We are advised by the IEPA that some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/CDC (Center for Disease Control) guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

Water Facts

Due to favorable monitoring history, aquifer characteristics, and inventory of potential sources of contamination, our water supply was issued a vulnerability waiver renewal. No monitoring for Volatile Organic Chemicals (VOCs) and Synthetic Organic Chemicals (SOCs) is required between January 1, 1999, and December 31, 2001, nor was it required for the three years prior.

For the ninth (9th) consecutive year, the Village of Barrington has been recognized for achieving the highest standard of compliance for fluoride addition in accordance with the Fluoridation Act.

More than 6,200 separate tests were performed on water samples from our system.

Population served - 9,504.

Metered customers - 3,541.

86 miles of watermain and approx. 847 Fire hydrants.

Water production - 1.741 (million gallons/day) Ave.

2001 Water Quality Data

Contaminant (units) Typical Source of Contaminant

RADIO ACTIVE CONTAMINANTS

ALPHA EMITTERS (pCi/l) Erosion of natural deposits

INORGANIC CONTAMINANTS

BARIUM (ppm) Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits

COPPER (ppm) Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

FLUORIDE (ppm) Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.

LEAD (ppb) Corrosion of household plumbing systems; erosion of natural deposits

DISINFECTANTS /DISINFECTION BY-PRODUCTS

TTHMs (ppb) Naturally occurring deposits
[TOTAL TRIHALOMETHANES]

UNREGULATED CONTAMINANTS

BROMODICHLOROMETHANE (ppb) By-product of drinking water chlorination

CHLOROFORM (ppb) Used as solvent for fats, oils, rubber, resins; Cleansing agent; Found in fire extinguishers

DIBROMOCHLOROMETHANE (ppb) Used as a chemical reagent; An intermediate in organic synthesis

SULFATE (ppm) Erosion of naturally occurring deposits

STATE-REGULATED CONTAMINANTS

IRON (ppb) Erosion of naturally occurring deposits

MANGANESE (ppb) Erosion of naturally occurring deposits

SODIUM (ppm) Erosion of naturally occurring deposits; Used as water softener

ZINC (ppb) Naturally occurring/ Discharge from metal factories

Key:

Definitions of Terms

Maximum Contaminant Level Goal - MCLG:

The level of a contaminant in drinking water below which there is not known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Contaminant Level - MCL:

The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible, using the best available treatment technology.

Level Found:

Represents an average of sample result data collected during the CCR calendar year. In some cases, it may represent a single sample if only one sample was collected.

Range of Detection:

Represents a range of individual sample results, from lowest to highest that were collected during the CCR calendar year.

Action Level - AL:

The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

Treatment Technique - TT:

A required process intended to reduce the level of a contaminant in drinking water.

About the Data



The Maximum Contaminant Level (MCL) for lead is 15 parts per billion (ppb) and 1.3 parts per million (ppm) for copper. When lead or copper exceed their Action levels (AL), some form of treatment is required, which the water system must follow. The V.O.B. adds polyphosphates to the potable water system.

This is to help prevent lead in your home's plumbing from leaching into the water. In the Water Quality Data chart, the number 50 listed in the "Level Found" column for lead under "Inorganic Contaminants" represents the 90th % level found in (ppb) for lead. The number of homes the IEPA requires the Village to test is 40. Of the 40 homes tested, 15 were found to exceed the AL of 15 ppb for lead, while 4 were found to exceed the AL 1.3 ppm for copper, as shown in the "Range of Detection" column.

Lead

Infants and young children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. It is possible that lead levels at your home may be higher than at other homes in your community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, have your water tested. Also, flush your tap for 30 seconds to two minutes before using tap water. Additional information is available from the USEPA's Safe Drinking Water Hotline at 1-800-426-4791.

Copper

Copper is an essential nutrient, but some people who drink water-containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water-containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

Iron

This contaminant is not currently regulated by the USEPA. However, the state has set an MCL for this contaminant for supplies serving a population of 1,000 or more. Iron is not a health risk, but it does create aesthetic problems, such as giving water a metallic taste and causing stains on clothes.

Manganese

This contaminant is not currently regulated by the USEPA. However, the state has set an MCL for this contaminant for supplies serving a population of 1,000 or more.

Sodium

There is not a state or federal MCL for Sodium. Monitoring is required to provide information to consumers and health officials that are concerned about intake due to dietary precautions. If you are on a sodium-restricted diet, you should consult a physician about the level of sodium in the water.

Zinc

This contaminant is not currently regulated by the USEPA. However, the state has set an MCL for this contaminant and therefore monitoring is required.

MCLG	MCL	Level Found	Range of Detection	Violation	Date of Sample
0	15	3.000	nd-3.000	0	12/14/98
2	2	0.086	0.063-0.086	0	
1.3	AL=1.3	1.180	4 exceeding AL	0	
4	4	1.260	1.250 - 1.260	0	
0	AL=15	50	15 exceeding AL	AL	
n/a	100	4.610	2.610 - 4.610	0	
n/a	n/a	1.510	1.830-1.510	0	
n/a	n/a	2.610	1.540 - 2,610	0	
n/a	n/a	0.490	0.240 - 0.490	0	
n/a	n/a	141.000	91.200 - 141.000	0	
n/a	1000	1490.000	372.000 - 1720.000	0	
n/a	150	17.000	nd - 17.000	0	
n/a	n/a	28.200	23.100 - 28.200	0	
n/a	5000	133.000	nd - 133.000	0	

All residents are notified yearly of their water test results.

Notes

In most cases, the "Level Found" column represents an average of sample result data collected during the Consumer Confidence Report (CCR) calendar year.

The "Range of Detections" column represents a range of individual sample results, from lowest to highest, that were collected during the CCR calendar year.

If a date appears in the "Date of Sample" column, the Illinois EPA requires monitoring for this contaminant less than once per year because the concentrations do not frequently change. If no date appears in the column, monitoring for this contaminant was conducted during the CCR calendar year.

Abbreviations

nd – not detectable at testing limits

n/a – not applicable

ppm – parts per million or milligrams per liter

ppb – parts per billion or micrograms per liter

pCi/l – picocuries per liter, used to measure radioactivity

pos/mo – number of positive samples per month

2001 Source Water Assessment Summary

Based upon Section 141.153(b) 2 of the CCR rule, community water supplies are required to report a summary of their water susceptibility determination, which are compiled by the Illinois EPA.

Importance of Source Water

The Village of Barrington (Facility Number 0974080) utilizes four active community water supply wells. Well #1 (Illinois EPA #20236), well #2 (Illinois EPA #20237), well #3 (Illinois EPA #20238), and well #4 (Illinois #20239) distribute 1,741,000 gallons per day on average to an estimated population of 9,504 at 3,541 service connections.

Susceptibility to Contamination

Based on information obtained in a well Site Survey, published in 1992 by the Illinois EPA, fourteen potential sources or possible problem sites were located within the survey area of Barrington's wells. Furthermore, information provided by the Leaking Underground Storage Tank and Remedial Project Management Sections of the Illinois EPA indicated several sites with ongoing remediation, which may be of concern.

The Illinois EPA has determined that the Barrington Community Water Supply's source water is not susceptible to contamination. This determination is based on a number of criteria including: monitoring conducted at the wells; monitoring conducted at the entry point to the distribution system; and the available hydro geologic data on the wells.

Furthermore, in anticipation of the U.S. EPA's proposed Ground Water Rule, the Illinois EPA has determined that the Barrington Community Water Supply is not vulnerable to viral contamination. This determination is based upon the completed evaluation of the following criteria during the Vulnerability Waiver Process: the community's wells are properly constructed with sound integrity and proper site conditions; a hydro geologic barrier exists which should prevent pathogen movement; all potential routes and sanitary defects have been mitigated such that the source water is adequately protected; monitoring data did not indicate a

history of disease outbreak; and the sanitary survey of the water supply did not indicate a viral contamination threat. Because the community's wells are constructed in a confined aquifer, which should prevent the movement of pathogens into the wells, well hydraulics was not considered to be a significant factor in the susceptibility determination. Hence, well hydraulics was not evaluated for this groundwater supply.

Source Water Protection Efforts

The Illinois Environmental Protection Act provides minimum protection zones of 200 feet for Barrington's wells. Minimum protection zones are regulated by the Illinois EPA. To further reduce the risk to source water, the facility has implemented a wellhead protection program, which includes the proper abandonment of potential routes of groundwater contamination and correction of sanitary defects at the water treatment facility. This effort resulted in the community water supply receiving a special exception permit from the Illinois EPA, which allows a reduction in monitoring. The outcome of this monitoring reduction has saved the facility considerable laboratory analysis costs. To further minimize the risk to Barrington's groundwater supply, the Illinois EPA recommends that three additional activities be assessed. First, the community may wish to enact a "maximum setback zone" ordinance to further protect their water supply. These ordinances are authorized by the Illinois Environmental Protection Act and allow county and municipal officials the opportunity to provide additional protection up to a fixed distance, normally 1,000 feet, from their wells. Second, the water supply staff may wish to revisit their contingency planning documents, if available. Contingency planning documents are a primary means to ensure that, through emergency preparedness, a community will minimize their risk of being without safe and adequate water. Finally, the water supply staff is encouraged to review their cross connection control program to ensure that it remains current and viable. Cross connections to either the water treatment plant (for example, at bulk water loading stations) or in the distribution system may negate all source water protection initiatives provided by the community.

Water Quality Improvements

A "valve turning" ceremony was held on November 19th, 2001. All Village Board members as well as Village residents were invited to attend this long awaited event. This much needed facility will remove 90% of the iron produced from the two shallow wells (Well #3 and Well #4) that serve this pump house. The water from these two wells consistently produce water with an iron concentration of over one and a half parts per million (ppm). For a number of years, the Village has struggled with problems relative to "red" water or iron within the drinking water. Although the water is safe, the discoloration that is created from iron in the water has been the Village's most frequent complaint.

The cost to the Village to install and house the Iron Filtration System was \$1,800,00.00. To reduce the costs for this facility, the village received a 20 year low interest loan from the Illinois Environmental Protection Agency (IEPA). The savings to all the Village's water users will be in excess of \$650,000.00 over the course of this loan.

The Village will continue to strive to produce the highest quality of water for all Village consumers, meeting the demands set forth by the IEPA.



Village Iron Removal Facility